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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,373	02/10/2004	Seiji Harada	325772034100	1123

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EXAMINER	
GOLDBERG, BRIAN J	

ART UNIT	PAPER NUMBER
2861	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/774,373	HARADA ET AL.	
	Examiner	Art Unit	
	Brian Goldberg	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-10,12-22,24-28,30-34 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-10,12-22,24-28,30-34 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 5-8, 13-15, 18, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma (US 5530461) in view of Phillips et al. (US 6817693) or Barbour et al. (US 6318828).

3. Regarding claim 1, Sakuma discloses "a judgment unit for judging whether a service life of a loaded developing agent cartridge has expired by accessing a memory unit (ROM 35 and memory 37)...; and an operation mode setting unit for setting up its own operation mode to a safety mode in order to prevent printing troubles when said judgment unit determines that the service life of said developing agent cartridge has expired (col 5 ln 57-62, col 6 ln 20-25, Figs 5-7); wherein said safety mode is to execute a printing process with an increased cleaning frequency, an increased calibration frequency or an increased communication frequency with a control center compared to those of a standard mode (col 6 ln 55-62)." Thus Sakuma meets the claimed invention except the memory unit being "built into said developing agent cartridge, said memory unit storing information concerning the service life of the developing agent cartridge."

4. It is common in the art for a memory unit to be provided on a cartridge. Both Phillips et al. and Barbour et al. teach such an arrangement. Phillips et al. teach that

component memory (44 of Fig 3) is provided in the cartridge (32 of Fig 3) and stores information regarding the characteristics of the cartridge (col 4 ln 29-30, 33-35). Similarly, Barbour et al. teach memory unit (122 of Fig 1A and 306 of Fig 3) built into the cartridge (116 of Fig 1A and 300 of Fig 3), the memory unit storing information concerning the service life of the cartridge (col 4 ln 41-47). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the memory unit built into the cartridge and store information regarding the service life of the cartridge. One would have been motivated to so modify Sakuma for the benefit of making the separate parts disclosed in Sakuma integral in the cartridge, which minimizes the number of parts, while storing pertinent information concerning the cartridge.

5. Regarding claims 3, 10, and 17, Sakuma further discloses "said consumption information and service life information are based on a number of printed sheets, a number of effective pixels used in forming images, or an amount of consumed developing agent (col 7 ln 66 – col 8 ln 1)."

6. Regarding claims 5, 12, and 19, Sakuma further discloses "said developing agent cartridge is either a toner cartridge or an ink cartridge (15, 16, col 8 ln 1-2)."

7. Regarding claims 6 and 13, Sakuma discloses "a judgment unit/step for judging whether a service life of a loaded developing agent cartridge has expired by accessing a memory unit (ROM 35 and memory 37)...; and an operation mode setting unit/step for setting up its own operation mode to a safety mode in which a printing process is executed with an increased cleaning frequency compared to that of a standard mode

when said judgment unit/step determines that the service life of said developing agent cartridge has expired (col 5 ln 57-62, col 6 ln 55-63, Figs 5-7)." Thus Sakuma meets the claimed invention except the memory unit being "built into said developing agent cartridge, said memory unit storing information concerning the service life of the developing agent cartridge."

8. It is common in the art for a memory unit to be provided on a cartridge. Both Phillips et al. and Barbour et al. teach such an arrangement. Phillips et al. teach that component memory (44 of Fig 3) is provided in the cartridge (32 of Fig 3) and stores information regarding the characteristics of the cartridge (col 4 ln 29-30, 33-35). Similarly, Barbour et al. teach memory unit (122 of Fig 1A and 306 of Fig 3) built into the cartridge (116 of Fig 1A and 300 of Fig 3), the memory unit storing information concerning the service life of the cartridge (col 4 ln 41-47). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the memory unit built into the cartridge and store information regarding the service life of the cartridge. One would have been motivated to so modify Sakuma for the benefit of making the separate parts disclosed in Sakuma integral in the cartridge, which minimizes the number of parts, while storing pertinent information concerning the cartridge.

9. Regarding claims 7 and 14, Sakuma further discloses "said cleaning frequency is such that cleaning is executed in every page of image information (col 1 ln 31-35, col 7 ln 66-67)." Cleaning can be executed every predetermined number of pages, which includes every page.

10. Regarding claim 8, Sakuma discloses "a judgment step of judging whether a service life of a loaded developing agent cartridge has expired by accessing a memory unit (ROM 35 and memory 37)...; and an operation mode setting step of setting up its own operation mode to a safety mode in order to prevent printing troubles when said judgment step determines that the service life of said developing agent cartridge has expired (col 5 ln 57-62, col 6 ln 20-25, Figs 5-7); wherein said safety mode is to execute a printing process with an increased cleaning frequency, an increased calibration frequency or an increased communication frequency with a control center compared to those of a standard mode (col 6 ln 55-62)." Thus Sakuma meets the claimed invention except the memory unit being "built into said developing agent cartridge, said memory unit storing information concerning the service life of the developing agent cartridge."

11. It is common in the art for a memory unit to be provided on a cartridge. Both Phillips et al. and Barbour et al. teach such an arrangement. Phillips et al. teach that component memory (44 of Fig 3) is provided in the cartridge (32 of Fig 3) and stores information regarding the characteristics of the cartridge (col 4 ln 29-30, 33-35). Similarly, Barbour et al. teach memory unit (122 of Fig 1A and 306 of Fig 3) built into the cartridge (116 of Fig 1A and 300 of Fig 3), the memory unit storing information concerning the service life of the cartridge (col 4 ln 41-47). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the memory unit built into the cartridge and store information regarding the service life of the cartridge. One would have been motivated to so modify Sakuma for the benefit of making the separate parts disclosed in Sakuma integral in the cartridge, which

minimizes the number of parts, while storing pertinent information concerning the cartridge.

12. Regarding claim 15, Sakuma discloses "a judgment step of judging whether a service life of a loaded developing agent cartridge has expired by accessing a memory unit...(ROM 35 and memory 37); and an operation mode setting step of setting up its own operation mode to a safety mode in order to prevent printing troubles when said judgment step determines that the service life of said developing agent cartridge has expired (col 5 ln 57-62, col 6 ln 20-25, Figs 5-7)." Thus Sakuma meets the claimed invention except the memory unit being "built into said developing agent cartridge, said memory unit storing information concerning the service life of the developing agent cartridge."

13. It is common in the art for a memory unit to be provided on a cartridge. Both Phillips et al. and Barbour et al. teach such an arrangement. Phillips et al. teach that component memory (44 of Fig 3) is provided in the cartridge (32 of Fig 3) and stores information regarding the characteristics of the cartridge (col 4 ln 29-30, 33-35). Similarly, Barbour et al. teach memory unit (122 of Fig 1A and 306 of Fig 3) built into the cartridge (116 of Fig 1A and 300 of Fig 3), the memory unit storing information concerning the service life of the cartridge (col 4 ln 41-47). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to have the memory unit built into the cartridge and store information regarding the service life of the cartridge. One would have been motivated to so modify Sakuma for the benefit of making the separate parts disclosed in Sakuma integral in the cartridge, which

minimizes the number of parts, while storing pertinent information concerning the cartridge.

14. Regarding claim 18, Sakuma further discloses "said safety mode is to execute a printing process with an increased cleaning frequency, an increased calibration frequency or an increased communication frequency with a control center, or a reduced printing speed compared to those of a standard mode (col 6 ln 55-62)."

15. Regarding claim 20, Sakuma further discloses "a computer-readable recording medium on which the printing program described in claim 15 is recorded (35 of Fig 1, col 4 ln 37)."

16. Claims 2, 9, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakuma in view of Phillips et al. or Barbour et al. and further in view of Haines et al.

17. Regarding claims 2, 9, and 16, Sakuma in view of Phillips et al. or Barbour et al. discloses the claimed invention as set forth above with respect to claims 1, 8, and 15. Thus Sakuma in view of Phillips et al. or Barbour et al. meets the claimed invention except the limitations set forth in claims 2, 9, and 16.

18. Haines et al. teach "a consumption information reading unit [or step] for reading consumption information that represents the degree of consumption of said developing agent cartridge at the present time stored in a memory unit of said developing agent cartridge, wherein said judgment unit determines whether the service life of said developing agent cartridge has expired by comparing the consumption information of paid developing agent cartridge read by said consumption information reading unit with

preset service life information that represents the service life of said developing agent cartridge (40 of Fig 3, col 2 ln 14-22, ln 36-40, 124 of Fig 4)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to store consumption information in a memory unit of the cartridge and using it to determined service life. One would have been motivated to so modify Sakuma with the addition taught by Haines et al. for the benefit of providing the manufacturer with usage information of the cartridge which may be utilized in design, manufacture and marketing of subsequent cartridges, as stated by Haines et al.

19. Claims 21, 22, 24-28, 30-34, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips et al. in view of Sakuma.

20. Regarding claims 21, 27, and 33, Phillips et al. disclose "a judgment unit/step for judging whether a loaded developing agent cartridge is an authorized product (51 of Fig 3); and an operation mode setting unit/step for setting up its own operation mode to a safety mode in order to prevent printing troubles when said judgment unit/step determines that said developing agent cartridge is not an authorized product (col 5 ln 64 – col 6 ln 2)." Thus Phillips et al. meet the claimed invention except "wherein said safety mode is to execute a printing process with an increased cleaning frequency, an increased calibration frequency or an increased communication frequency with a control center compared to those of a standard mode."

21. Sakuma teaches "said safety mode is to execute a printing process with an increased cleaning frequency, an increased calibration frequency or an increased communication frequency with a control center, or a reduced printing speed compared

to those of a standard mode (col 6 ln 55-62)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a safety mode in which a printing process with an increased cleaning frequency is executed. One would have been motivated to so modify Phillips et al. by executing an increased cleaning frequency instead of displaying a warning or shutting down for the benefit of minimizing the decrease in printing quality which would normally occur until the printhead is replaced, as stated by Sakuma.

22. Regarding claim 22, Phillips et al. further disclose "a product information reading unit for reading product information for identifying a product of said printing device or said developing agent cartridge stored in a memory unit of said developing agent cartridge (44, 51 of Fig 3), wherein said judging unit determines whether said developing agent cartridge is an authorized product or not by comparing the product information read by said product information reading unit with a product information of an authorized product (col 5 ln 64 – col 6 ln 2, col 6 ln 6-12)."

23. Regarding claim 24, 30, and 36, Phillips et al. further disclose "said developing agent cartridge is either a toner cartridge or an ink cartridge (32 of Fig 2 and col 2 ln 61)."

24. Regarding claims 28 and 34, Phillips et al. further disclose "a product information reading step for reading product information for identifying a product of said printing device or said developing agent cartridge stored in a memory unit of said developing agent cartridge (44, 51 of Fig 3), wherein said judging step determines whether said developing agent cartridge is an authorized product or not by comparing the product

information read by said product information reading unit with a product information of an authorized product (col 5 ln 64 – col 6 ln 2, col 6 ln 6-12)."

25. Regarding claims 25 and 31, Phillips et al. disclose "a judgment unit/step for judging whether a loaded developing agent cartridge is an authorized product (51 of Fig 3); and an operation mode setting unit/step for setting up its own operation mode to a safety mode... when said judgment unit/step determines that said developing agent cartridge is not an authorized product (col 5 ln 64 – col 6 ln 2)." Thus Phillips et al. meet the claimed invention except "a safety mode in which a printing process is executed with an increased cleaning frequency compared to that of a standard mode."

26. Sakuma teaches "a safety mode in which a printing process is executed with an increased cleaning frequency compared to that of a standard mode (col 6 ln 55-62)." It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a safety mode in which a printing process with an increased cleaning frequency is executed. One would have been motivated to so modify Phillips et al. by executing an increased cleaning frequency instead of displaying a warning or shutting down for the benefit of minimizing the decrease in printing quality which would normally occur until the printhead is replaced, as stated by Sakuma.

27. Regarding claims 26 and 32, Sakuma further teaches "said cleaning frequency is such that cleaning is executed in every page of image formation (col 1 ln 31-35, col 7 ln 66-67)." Cleaning can be executed every predetermined number of pages, which includes every page.

Response to Arguments

28. Applicant's arguments with respect to claims 1, 3, 5-8, 13-15, 18, and 20 have been considered but are moot in view of the new ground(s) of rejection.

29. Applicant's arguments with respect to claims 21, 22, 24-28, 30-34, and 36 have been fully considered but they are not persuasive. Applicant states that claim 36 has been canceled, but the amendments to the claims indicate that claim 37 is cancelled, not 36, and the claims have been examined as presented. Regarding the obviousness rejection involving Phillips et al. in view of Sakuma, applicant states that the invention set forth by Phillips is "specifically directed to avoiding use of that unapproved cartridge" since it may damage Phillips' device. However, that statement is incorrect, since Phillips states that the invention is trying to avoid any component being damaged, inferior printing quality, or any other reason the user may not want to use the cartridge with the printer if it is determined that the cartridge is not an authorized product (see col 4 ln 5-6). Similarly, Sakuma teaches a safety mode with an increases cleaning frequency in order to minimize the decrease in printing quality. Therefore, one of ordinary skill in the art would have found it obvious and would have been motivated to modify Phillips in view of Sakuma to provide a safety mode with an increased cleaning frequency to minimize the decrease in print quality caused by using the unauthorized cartridge.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goldberg whose telephone number is 571-272-2728. The examiner can normally be reached on Monday through Friday, 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian Goldberg
AU 2861
January 19, 2007

STEPHEN MEIER
SUPERVISORY PATENT EXAMINER